

Claims

- [c1] An automotive interior trim assembly for coupling to an automobile, comprising:
- a substrate member forming at least a part of a structural support of the trim assembly, said substrate member having a front surface adapted to face the interior of the automobile and a back surface adapted to face opposite said front surface;
 - a connecting member integrally molded with said substrate member and extending away from said back surface, said connecting member having an aperture formed therein; and
 - a grommet integrally molded in said aperture and adapted to secure a wire to said connecting member so as to prevent movement of the wire with respect to said substrate member.
- [c2] The trim assembly of claim 1, wherein said substrate member has a hardness and said grommet has a hardness that is relatively lower than the hardness of said substrate member.
- [c3] The trim assembly of claim 1 further comprising:
- a cover member overlying at least a portion of said front

surface and adapted to provide a soft feel to the trim assembly, said cover member having a hardness that is relatively lower than a hardness of said substrate member.

- [c4] The trim assembly of claim 1, wherein said substrate member is formed from a material selected from the group consisting of thermoplastic olefin, acrylonitrile butadiene styrene, styrene maleic anhydride, and polycarbonate/acrylonitrile butadiene styrene alloy.
- [c5] The trim assembly of claim 4, wherein said grommet is formed from a thermoplastic elastomer.
- [c6] The trim assembly of claim 1, wherein said grommet is formed from a thermoplastic elastomer.
- [c7] The trim assembly of claim 1, wherein said connecting member completely encapsulates said aperture.
- [c8] The trim assembly of claim 1, wherein said aperture includes a slot portion extending to an edge of said connecting member, the wire insertable in said grommet through said slot portion.
- [c9] The trim assembly of claim 1, wherein said grommet includes a first slit therethrough and extending at least partially across said grommet, said slit adapted to secure

the wire to said connecting member when the wire is inserted through said slit.

[c10] The trim assembly of claim 9, wherein said grommet includes a second slit therethrough and extending at least partially across said grommet, said second slit being substantially perpendicular to said first slit to form a plurality of radial fingers, said first and second slits adapted to secure the wire to said connecting member when the wire is inserted through said first and second slits.

[c11] The trim assembly of claim 1 configured as an instrument panel for an automobile.

[c12] The trim assembly of claim 1 configured as a door panel for an automobile.

[c13] A method of forming an automotive interior trim assembly in a two-shot molding operation, the method comprising:

molding a substrate member having a connecting member with an aperture by injecting a first curable material in a first shot of the molding operation; and

molding a grommet in the aperture of the connecting member by injecting a second curable material into the aperture during the second shot of the molding opera-

tion.

- [c14] The method of claim 13, wherein injecting first and second curable materials comprises:
injecting a first curable material having a hardness; and
injecting a second curable material having a hardness that is relatively lower than the hardness of the first curable material.
- [c15] The method of claim 14 further comprising:
injecting the second curable material onto the substrate member to form a cover member opposite to the connecting member during the second shot of the molding operation.
- [c16] The method of claim 13 further comprising:
forming a first slit in the grommet so that a wire is insertable through the grommet.
- [c17] The method of claim 16 further comprising:
forming a second slit in the grommet substantially perpendicular to the first slit to form a plurality of radial fingers.
- [c18] The method of claim 13, wherein the first curable material is selected from the group consisting of thermoplastic olefin, acrylonitrile butadiene styrene, styrene maleic anhydride, and polycarbonate/acrylonitrile butadiene

styrene alloy.

- [c19] The method of claim 19, wherein the second curable material is a thermoplastic elastomer.
- [c20] The method of claim 14, wherein the second curable material is a thermoplastic elastomer.